

Date: Friday, 12/7/2007 10:21:47 AM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : TUBE ASSEMBLY
Job Number : 36193	
Estimate Number : 12183	
P.O. Number :	Part Number : D3469043
This Issue : 12/7/2007 S.O. No. :	Drawing Number : D3469 REV A1
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : SMALL / MED FAB	Drawing Revision : A1
Previous Run : 35111	Material :
Written By :	Due Date : 1/10/2008 Qty: <u>5</u> Um: Each
Checked & Approved By : <u>12.12.07</u>	
Comment : Est Rev: A New Issue 06-02-03 JLM	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D34691	TUBE
-----	--------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
2	D3469-1	Tube	<u>B 36217</u> x <u>10</u>

mf

2.0	D34695	LOWER PLATE
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

LOWER PLATE

Batch: B 34409 x 1, B 36218 x 4

mf

3.0	AN960C416L	WASHER
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
4	AN960C416L	Washer	<u>m105793</u> x <u>20</u>

mf 08-01-23

4.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Assemble as per Dwg D3469 Using Dt8849 Assembly Jig, Use 1/4" Shaft To Align Butterfly Shaft holes

2-Spot Weld as per Dwg D3469 and Dart QSI 018

mf 08-01-23

5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 12/11/2007 10:21:47 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 36193

Part Number: D3469043

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC11

VISUAL INSPECTION OF SPOT WELDING



Comment: VISUAL INSPECTION OF SPOT WELDING

SP 08/01/23 (5)

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SP 08/01/23 (5)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: GA

SP 08/01/23 (5)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08.01.23  
AJ

Job Completion



mi 2008/1/23

W

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

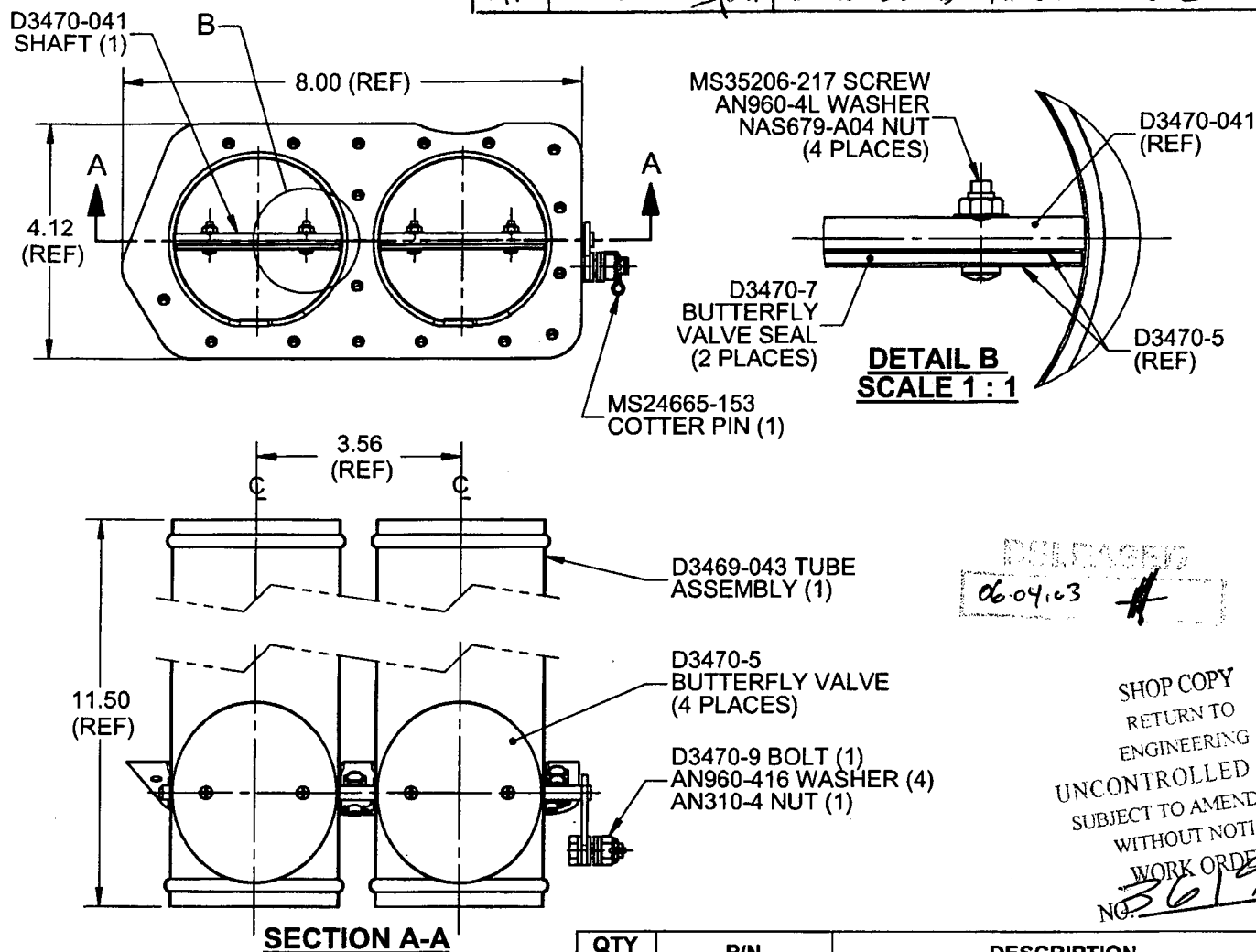
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. <b>D3469</b>	REV. A SHEET 1 OF 5
DATE <b>05.12.12</b>		TITLE <b>SHUT-OFF VALVE ASS'Y</b>	SCALE 1:3
A	05.12.12	NEW ISSUE	
A1	06.04.20	CORRECTED B.O.M. ON PAGE 2	

**D3469-041 SHUT-OFF VALVE ASS'Y****NOTES:**

- 1) IDENTIFY WITH DART P/N D3469-041 USING FINE POINT PERMANENT INK MARKER
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

QTY -041	P/N	DESCRIPTION
X	D3469-041	SHUT-OFF VALVE ASSEMBLY
1	D3469-043	TUBE ASSEMBLY
1	D3470-041	SHUT-OFF VALVE SHAFT
4	D3470-5	BUTTERFLY VALVE
2	D3470-7	BUTTERFLY VALVE SEAL
1	D3470-9	BOLT
1	AN310-4	NUT
4	AN960-4L	WASHER
4	AN960-416	WASHER
1	MS24665-153	COTTER PIN
4	MS35206-217	SCREW
4	NAS679-A04	NUT

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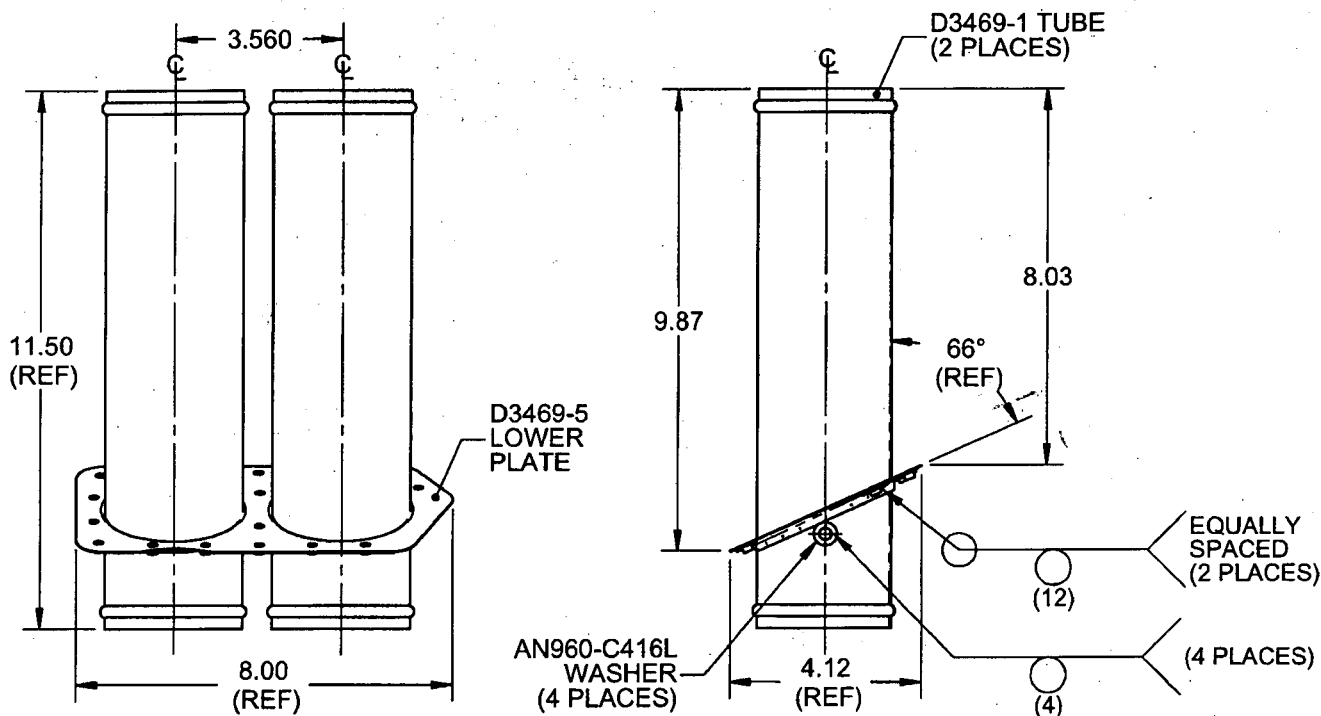
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**DART**

DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3469	REV. A SHEET 2 OF 5
DATE 05.12.12	TITLE SHUT-OFF VALVE ASS'Y		SCALE 1:4

RELEASED


# 06.04.03



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WORK ORDER  
NO. 36193

**D3469-043 TUBE ASSEMBLY****NOTES:**

- 1) SPOT WELD PER DART QSI 004
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

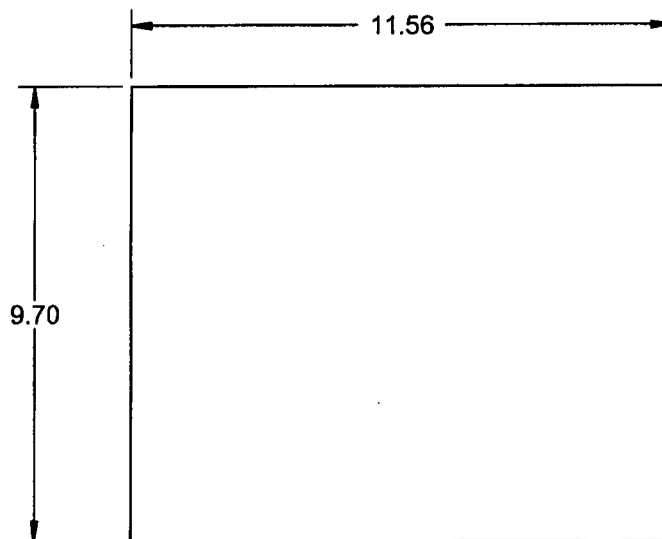
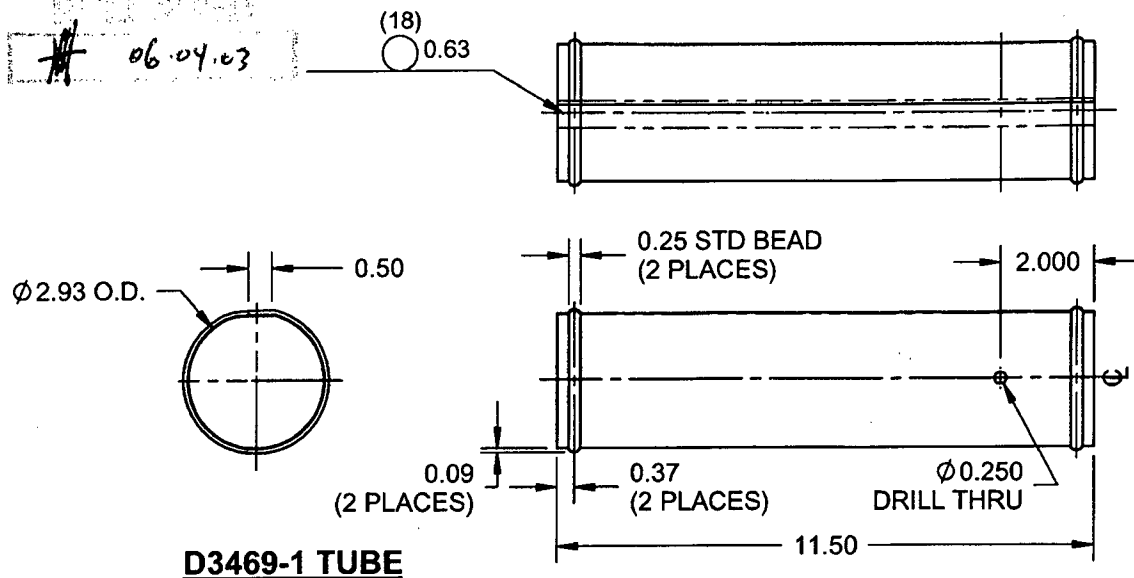
QTY -043	P/N	DESCRIPTION
X	D3469-043	TUBE ASSEMBLY
2	D3469-1	TUBE
1	D3469-5	LOWER PLATE
<del>4</del>	<del>D3470-5</del>	<del>PLATE VALVE</del> 
4	AN960-C416L	WASHER

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CHECKED <i>H</i>	APPROVED <i>H</i>	DRAWING NO. <b>D3469</b>	REV. A SHEET 3 OF 5
DATE <b>05.12.12</b>		TITLE <b>SHUT-OFF VALVE ASS'Y</b>	SCALE 1:4

**D3469-1F TUBE FLAT PATTERN****NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH  
26 GAUGE SS (0.018 THICK)  
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

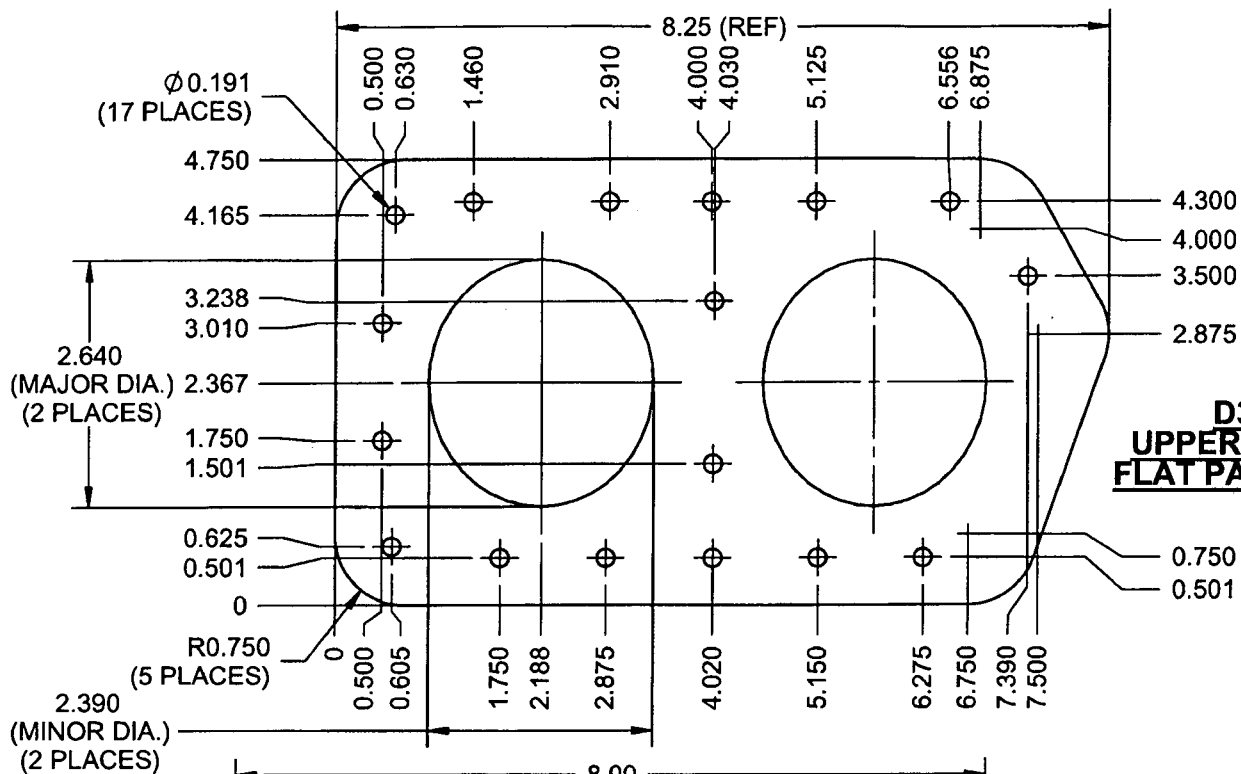
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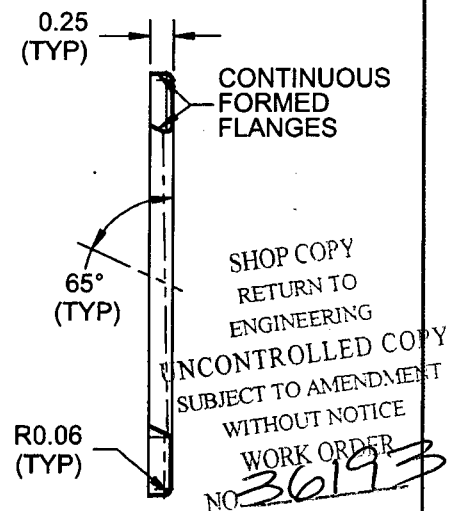
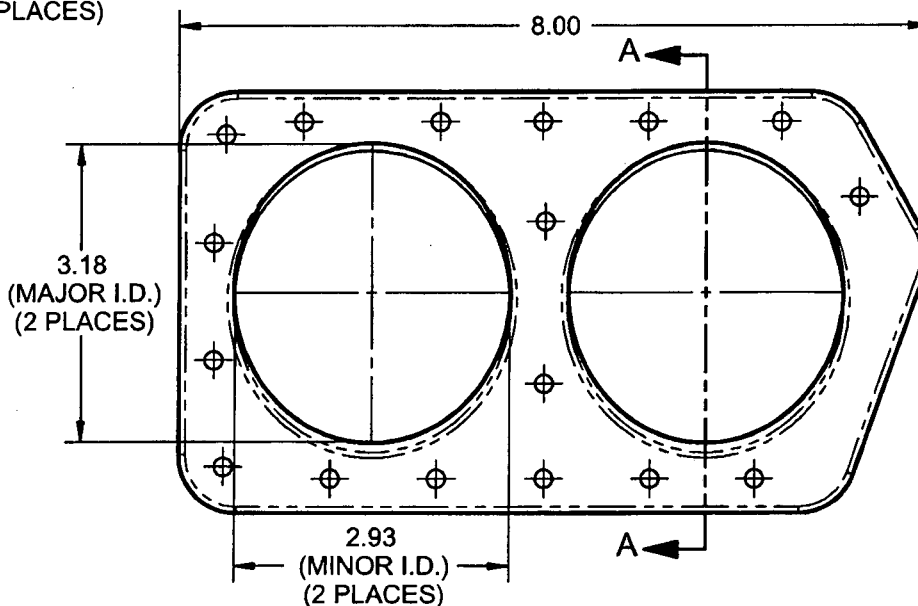
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**DART**

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CHECKED H	APPROVED H	DRAWING NO. <b>D3469</b>	REV. A SHEET 4 OF 5
DATE <b>05.12.12</b>		TITLE <b>SHUT-OFF VALVE ASS'Y</b>	SCALE 1:2



**D3469-3F  
UPPER PLATE  
FLAT PATTERN**



**SECTION A-A**

**D3469-3 UPPER PLATE BENDING DETAIL**

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH  
26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: NONE
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

RELEASED

# 06-07-03

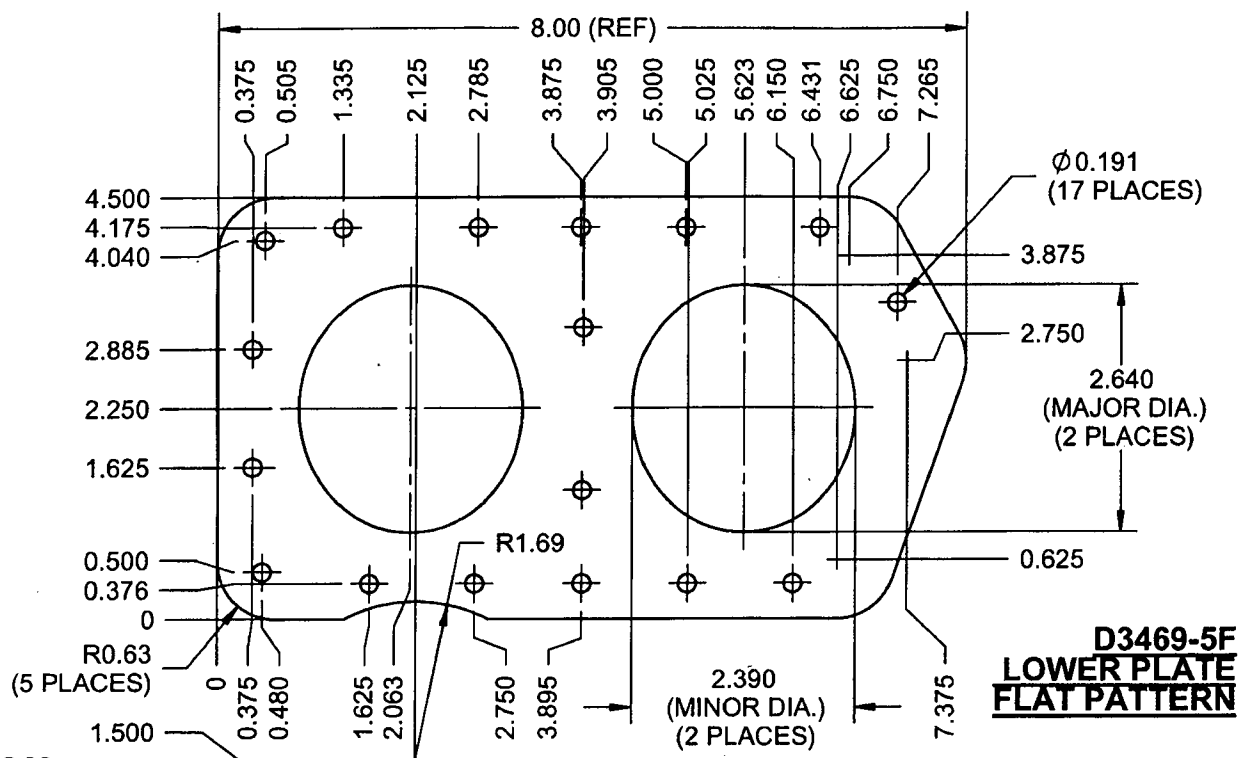
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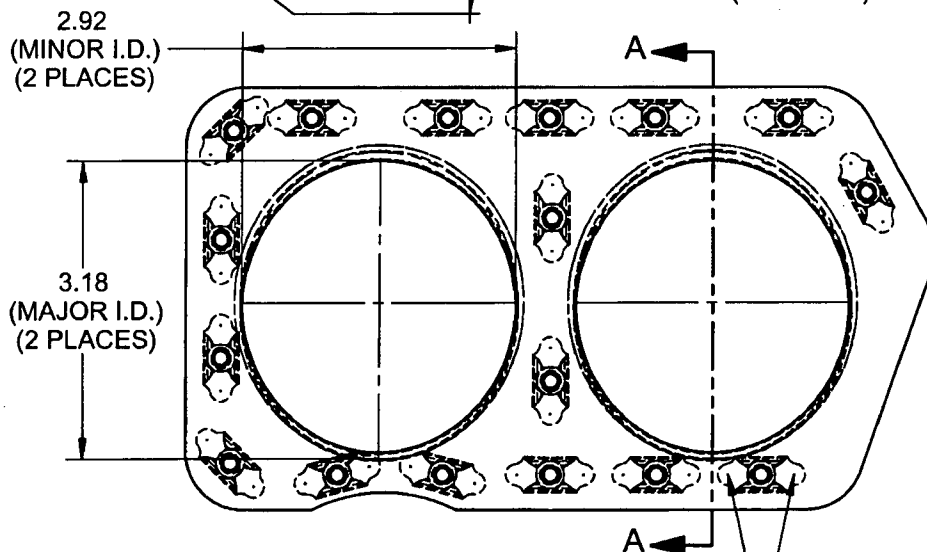




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DATE <b>05.12.12</b>	TITLE <b>SHUT-OFF VALVE ASS'Y</b>	SCALE 1:2



**D3469-5F  
LOWER PLATE  
FLAT PATTERN**



**SECTION A-A**

**D3469-5 LOWER PLATE**

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH 26 GAUGE SS (0.018 THICK)  
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD NUT PLATES PER DART QSI 004
- 3) FINISH: NONE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

RELEASED  
06-04-03

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**SPOT WELD TEST RECORD**  
**AMS-W-6858A**  
**CLASS 'C'**

**TEST NO#:** 53

**EMPLOYEE:** Melanie Faurey

**PART NUMBER:** D3469-043

**JOB NUMBER:** B 36193

**MATERIAL TYPE:** 304L

**MATERIAL THICKNESS:** 0.18

**GROUP SPECIFICATION**



**Group 1: Aluminum & magnesium**



**Group 2: Iron; nickel; cobalt**



**Group 3: Titanium**

**TEST RESULTS**

	<b>PASS</b>	<b>FAIL</b>	
<b>VISUAL:</b>	[ <input checked="" type="checkbox"/> ]	[ <input type="checkbox"/> ]	
<b>PENETRATION:</b>	[ <input checked="" type="checkbox"/> ]	[ <input type="checkbox"/> ]	
<b>PULL STRENGTH:</b>	[ <input type="checkbox"/> ]	[ <input type="checkbox"/> ]	<b>PSI Reading:</b> _____

**Qualified in accordance with standard AMS-W-6858A and QSI 004 (ref: 4.3)**

**DATE OF TEST COUPON:** 08/01/23  
**QUALIFIER:** 8/5